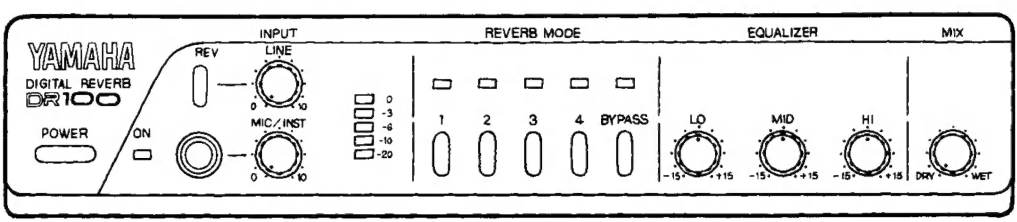
YAMAHA

DIGITAL REVERB
REVERBERATION NUMERIQUE
DIGITALHALLGERÄT

DR100

Operation Manual
Manuel d'instructions
Bedienungsanleitung



FCC CERTIFICATION (USA) for DR100

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to rado or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient the receiving antenna.

Relocate the computer with respect to the receiver.

Move the computer away from the receiver.

Plug the computer into a different outlet so that computer and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/ television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful;

"How to identify and Resolve Radio-TV interfernce problem". This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

THIS DIGITAL APPARATUS DOES NOT EXCEED THE "CLASS B" LIMITS FOR RADIO NOISE EMISSIONS FROM DIGITAL APPARATUS SET OUT IN THE RADIO INTERFERENCE REGULATON OF THE CANADIAN DEPARTMENT OF COMMUNICATIONS.

LE PRESENT APPAREIL NUMERIQUE N'EMET PAS DE BRUITS RADIOELECTRIQUES DEPASSANT LES LIMITES APPLICABLES AUX APPAREILS NUMERIQUES DE LA "CLASSE B" PRESCRITES DANS LE REGLEMENT SUR LE BROUILLAGE RADIOELECTRIQUE EDICTE PAR LE MINISTERE DES COMMUNICATIONS DU CANADA.

INTRODUCTION

Thank you very much for purchasing the YAMAHA DR100 Digital Reverb.
The DR100 is a compact, half-rack sized stereo type digital reverb offering four reverb programs and a 3 band equalizer.
In order to exploit the DR100's potential fully and to obtain a troublefree performance for years to come, please read this Operation Manual thoroughly before use.

CONTENTS

FEATURES

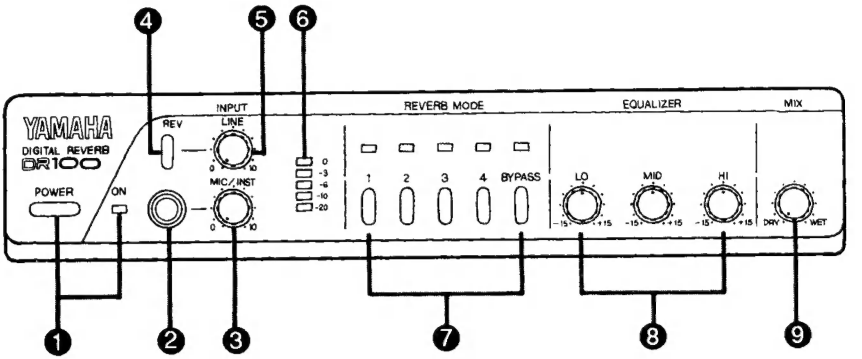
- Due to digital processing the 4 integrated reverb programs offer a natural, high-grade reverb sound. Preset reverb programs are called up by one-touch operation.
- A MIX control allows exact balance adjustments between source sound and effect sound.
- A 3-band equalizer permits minute response adjustments.
- The output signal can be switched between reverb and normal sound by pressing an integrated BYPASS switch, while a REV ON/OFF switch determines whether signals from the rear panel LINE INPUT pass through the reverb circuit or not.
- Besides the MIC/INST input jack on the front panel the DR100 offers LINE input jacks on the rear panel, which can be used at the same time. By pressing the REV button OFF the signals from the rear input bypass the reverb unit and the reverb effect applies only to the front input signals, ideal for playing along with recordings, CDs etc.
- LINE INPUT and OUTPUT are both equipped with RCA pin jacks and phone jacks. LEVEL switches allow switching of the input level between –20 dB and –10 dB for connecting a wide range of devices, allowing many applications like PA, recording, audio reproduction etc.
- Due to its compact half-rack size and light weight the DR100 fits anywhere and is easy to transport.

PRECAUTIONS

- To prevent damage to the speakers make sure to switch the POWER to the DR100 off and set the INPUT level controls to "0" before connecting LINE or MIC/INST inputs.
- Always turn the power switch of other components (power amplifier, etc.) OFF before connecting them to this unit. Also, turn this unit ON first, and the power amplifier last.
- Use only the YAMAHA AC adaptor PA-1B or PA-5 or the power supply PW100. Connecting another power adaptor with different polarity or voltage may cause damage to the DR100.
- Place this unit in sufficient distance to TVs and radios to prevent its digital circuitry from interfereing with radio or TV reception.
- Avoid using the unit in locations like the following to prevent damage or trouble.
  * Places subject to direct sunlight, near heating devices, etc.
  * Places with extreme temperatures.
  * Excessively humid or dusty places.
  * Places subject to strong vibration.
- Do not apply force to switches and knobs.
- Do not open the case or tamper with the internal circuitry to prevent damage and the danger of electric jolts.
- Do not use benzine, thinner or solvents for cleaning the unit, and avoid spraying aerosol-type insecticides near it (they may cause discoloration, etc.)
- After reading this Operation Manual, keep it in a safe place.

NAMES AND FUNCTIONS OF PARTS

Front Panel



❶ Power switch (POWER) and indicator
When the POWER is switched ON (▬), the ON indicators lights up.

❷ MIC/INST input jack
For applying reverb to the source signals connect the source (microphone, electric guitar, keyboard etc.) to this jack.
The rear panel LINE INPUT jacks ⑩ can be connected at the same time.
* Make sure to lower the MIC/INST input level control ❸ to "0" before plugging in your instrument.

❸ MIC/INST input level control (MIC/INST)
This control adjusts the input level for elecric guitars or microphones etc. connected to the MIC/INST jack ❷, while the rear panel FRONT JACK MIC/INST LEVEL switch ⑫ sets the control range for this level control.
When connecting a microphone set the FRONT JACK switch on the rear panel to the MIC position. When connecting an electric guitar or other instrument set the FRONT JACK switch to the INST position and adjust the input level with this MIC/INST input level control so that the "–3" segement of the level indicator ❻ lights up sporadically.
* When connecting a condenser microphone set the FRONT JACK switch to the INST position.

❹ Reverb ON/OFF switch (REV)
This switch determines whether the signals from the rear panel LINE INPUT ⑩ pass through the reverb circuit or not. When pressed (▬) the reverb effect applies to these signals (except when the BYPASS switch ❼ is pressed).

❺ LINE input level control (LINE)
This control is used for adjusting the input level of signals fed to the LINE INPUT ⑩ on the rear panel. When connecting instruments to the rear panel LINE

INPUT select the input level first with the –10 dB/–20 dB switch ⓫ on the rear panel and then adjust this control so that the "–3" segment of the level indicator ❻ lights up sporadically.

❻ Level Indicators

These indicators show the input level in a range from –20 dB to 0 dB.
Refer to these indicators when setting the input level controls ❸, ❺.

❼ Reverb mode buttons (REVERB MODE) and indicators

These buttons access the 4 reverb programs and the bypass circuit.
When one of these buttons is pressed ON the LED above the button lights up.

* **Reverb Programs (1 — 4)**
  You can choose between four programs differing in reverb time.
  Program No. 1 has the shortest reverb time, the other programs offer longer reverb times with program No. 4 creating the longest reverberations. The reverb time affects the width and depth of the reverb effect.
  (Refer to page 8for details about the reverb programs)
* **BYPASS switch**
  When the BYPASS switch is pressed ON (▬) the signals from the LINE INPUT jacks and MIC/INS jack will bypass the reverb circuit regardless of the selected reverb program and will be sent directly to the OUTPUT jacks. (In this case REV switch, MIX control, EQUALIZER controls will have no effect).
  This switch is very handy when you want to apply the reverb effect only to certain phrases.

❽ 3-Band equalizer controls (EQUALIZER)

These three controls for the low-range (LO), midrange (MID) and treble range (HI) enable minute response adjustments. In the center position a flat response will result, turning the control to the right (+) will boost, turning it to the left (–) will attenuate the corresponding band. The cutting, boosting range is between ± 15 dB.

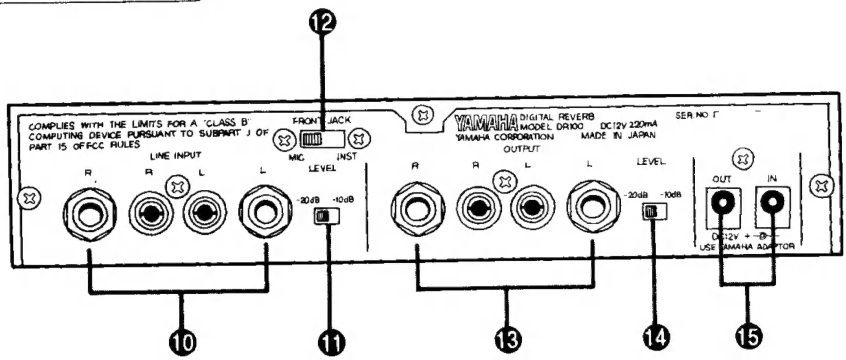
* LO . . . .For adjusting the low range (Shelving: 100 Hz).
* MID . . .For adjusting the mid-range (Peaking: 2 kHz).
* HI . . . .For adjusting the high range (Shelving: 10 kHz).

* The equalizer affects only the reverb sound.

❾ Mixing control (MIX)

Adjusts the balance between reverb sound and source sound. In the center position of the MIX control reverb sound and source sound will be reproduced with the same level. By turning the control to the right (WET) the reverb sound level will increase, by turning it to the left (DRY) the source sound level will increase. When using the unit in an effect or AUX SEND/RTN loop be sure to turn this control fully to the right (WET).

Rear Panel



⑩ LINE input jacks (LINE INPUT L, R)

The LINE INPUT offers two kinds of terminal types for connection: RCA pin jacks and phone jacks. The phone jacks take priority. When connecting the phone jacks the RCA pin jacks will not accept any input signals. For monaural sources connect either the left (L) or right (R) jack.

⑪ LINE input level switch (LEVEL –20 dB/–10 dB)

To select the nominal input level for the input jacks between –20 dB and –10 dB. Set it according to the connected equipment's output level.

⑫ MIC/INST level switch (FRONT JACK MIC/INST)

When connecting a microphone to the MIC/INST jack ❷ on the front panel set this level switch to the MIC position. For connection of instruments like electric guitars etc. set this switch to the INST position.

⑬ Output jacks (OUTPUT L, R)

These RCA pin jacks and phone jacks are the output terminals of the unit. Both can be used at the same time (the same signal is output through both).

⑭ Output level switch (LEVEL –20 dB/–10 dB)

To select the nominal output level of the output jacks between –20 dB and –10 dB. Set it according to the connected equipment's input level.

⑮ Power supply terminals (DC12V IN, OUT)

This unit requires a DC +12 V power supply. Connect the output cable of an AC adaptor or a cascade cable from the PW100 Power supply to this DC12V IN terminal.

* Use only the YAMAHA AC adaptor PA-1B or PA-5 or the power supply PW100 for AC operation.
Using an AC adaptor other than these might cause damage to the unit.

The DC12V OUT terminal supplies DC +12 V power to suitable YAMAHA components like the MV100, the Q100, etc. However, the total current consumption of this unit (220 mA) and connected YAMAHA components must be within the maximum current supplied by the AC adaptor. For powering more than two devices we recommend the YAMAHA power supply PW100 with a maximum current yield of 2 A or the YAMAHA AC adaptor PA-5.

* **Don't use a cascade arrangement for supplying power to the Reverb processor R100.**

REVERB MODES

This unit offers four different reverb programs to offer realistic acoustic simulations of various concert places.

- REVERB MODE 1: (ROOM)
  Produces the short and natural reverberations as if playing in a studio. Adds ambiance and space to the sound.

- REVERB MODE 2: (LIVE HOUSE)
  Creates the atmosphere of a live concert. This effects seems to spread the sound without changing its contours.

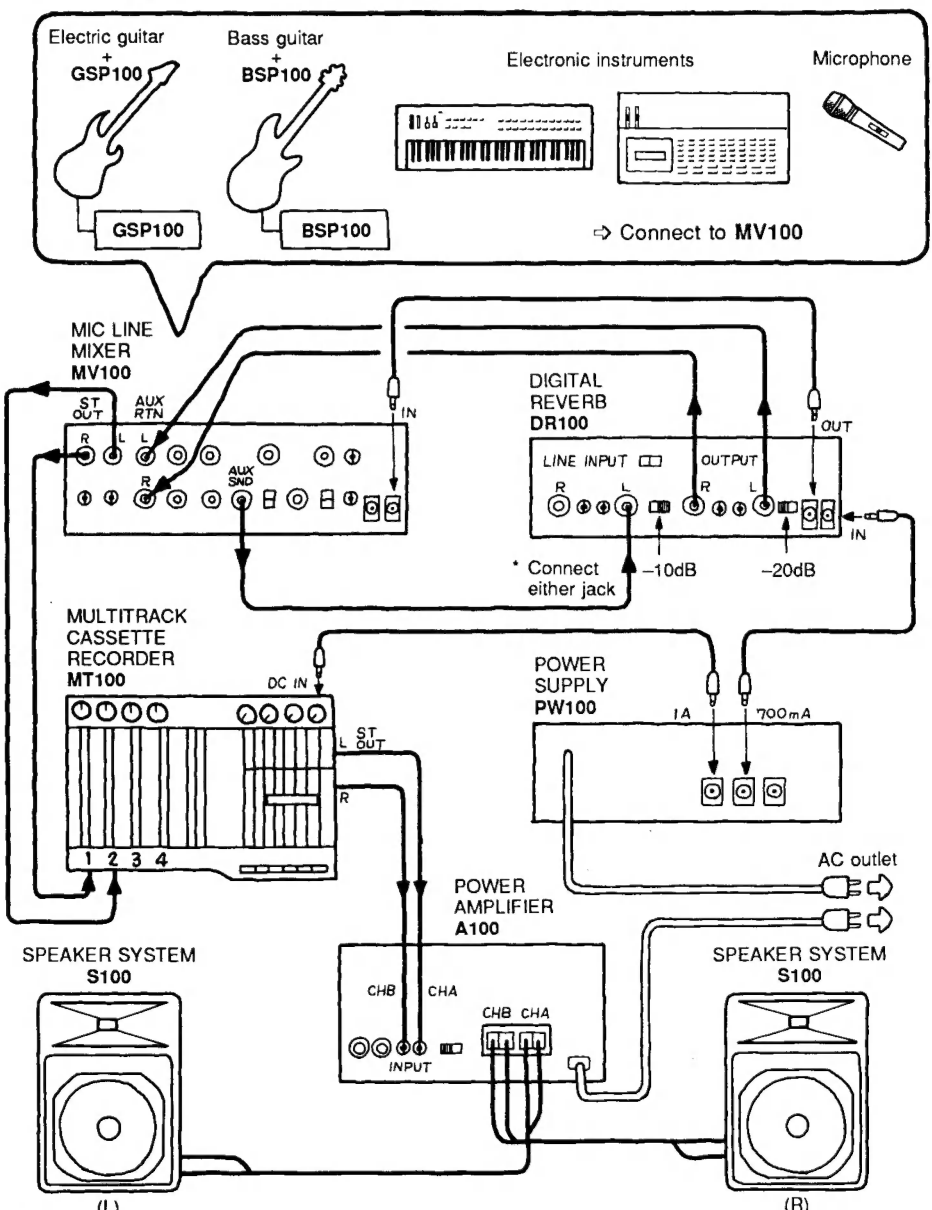
- REVERB MODE 3: (HALL)
  Produces the reverberations as found in a big hall. Creates a transparent sound image with great depth and width.

- REVERB MODE 4: (STADIUM)
  This effect has a long reverb time and simulates the acoustic of stadiums and other open-air concert places.

SYSTEM EXAMPLES

1. Recording with reverb effect

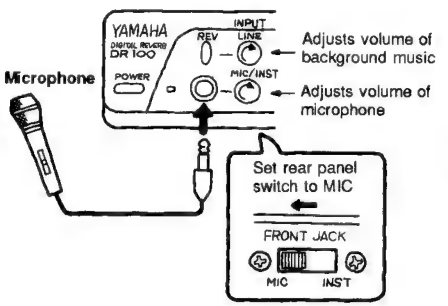
To apply the reverb effect to the recording, loop the DR100 into the signal path by connecting it to the AUX SND/RTN jacks of the mixer.



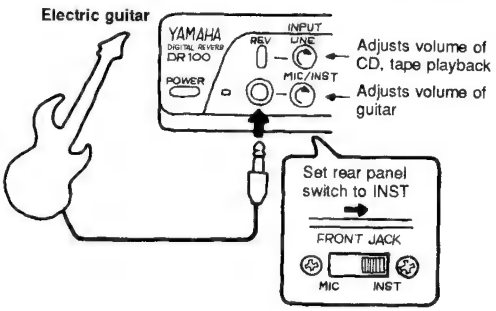
2. Accompanying background music from tape, CD etc.

- Connection to the DR100 front panel jack

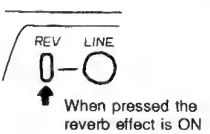
*** When connecting a microphone for singing along**



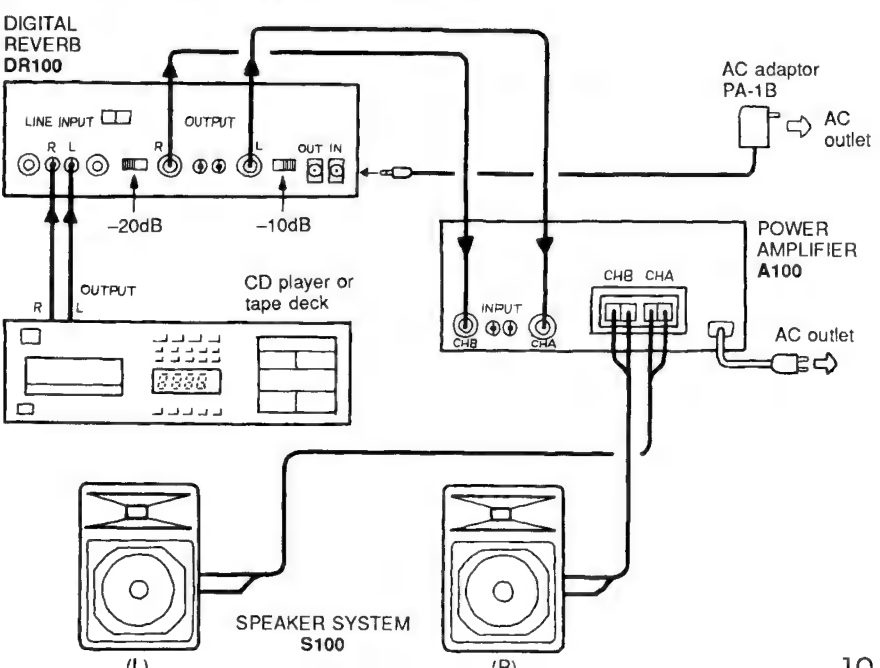
*** When connecting an electric guitar for accompanying a CD, tape recording etc.,**



* For applying the reverb effect also to the recording (CD, tape etc.) press the REV switch.



- Connection of the DR100s rear panel jacks



SPECIFICATIONS

Input Terminals

LINE INPUT (REAR)	: RCA pin jacks (CH L, R), phone jacks (CH L, R) Phone jacks have priority Input level; –10 dB (245mV)/–20 dB (77.5mV) switchable Input impedance; 20 kOhm
MIC/INST (FRONT)	: Phone jack Input level; –50 dB (2.5mV)(MIC)/–24 dB (48.9mV)(INST) switchable Input impedance; 20 kOhm

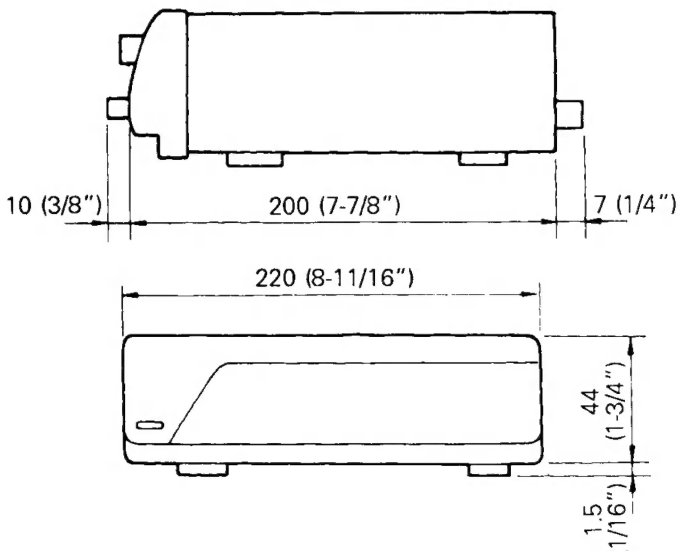
Output Terminals

OUTPUT	: RCA pin jacks (CH L, R), phone jacks (CH L, R) Output level; –10 dB(245mV)/–20 dB(77.5mV) switchable Output impedance; 600 Ohm
Reverb Unit	: Sampling frequency; 20.8 kHz A/D and D/A conversion; 16 bits Reverb programs; 1 — 4 (ROOM, LIVE HOUSE, HALL, STADIUM)
Equalizer	: LO (100 Hz), MID (2 kHz), HI (10 kHz) ±15 dB
Controls	: POWER switch, REV switch, LINE INPUT level control, MIC/INST INPUT level control, REVERB MODE buttons (1 — 4, BYPASS), 3-Band equalizer controls, MIX control, FRONT JACK MIC/INST level selector switch, LINE INPUT level selector switch (–20 dB, –10 dB), OUTPUT level selector switch (–20 dB, –10 dB)
LEDs	: 5-point (0, –3, –6, –10, –20)
Power Supply	: AC adaptor (DC +12 V) <OPTION>
Current Consumption	: 220 mA
Dimensions (W x H x D)	: 220 x 45.5 x 217 mm (8-11/16" x 1-13/16" x 8-9/16")
Weight	: 1.1 kg (2 lbs. 7 oz)
Standard Accessory	: DC Cascade power supply cable x 1

* 0 dB = 0.775 Vrms

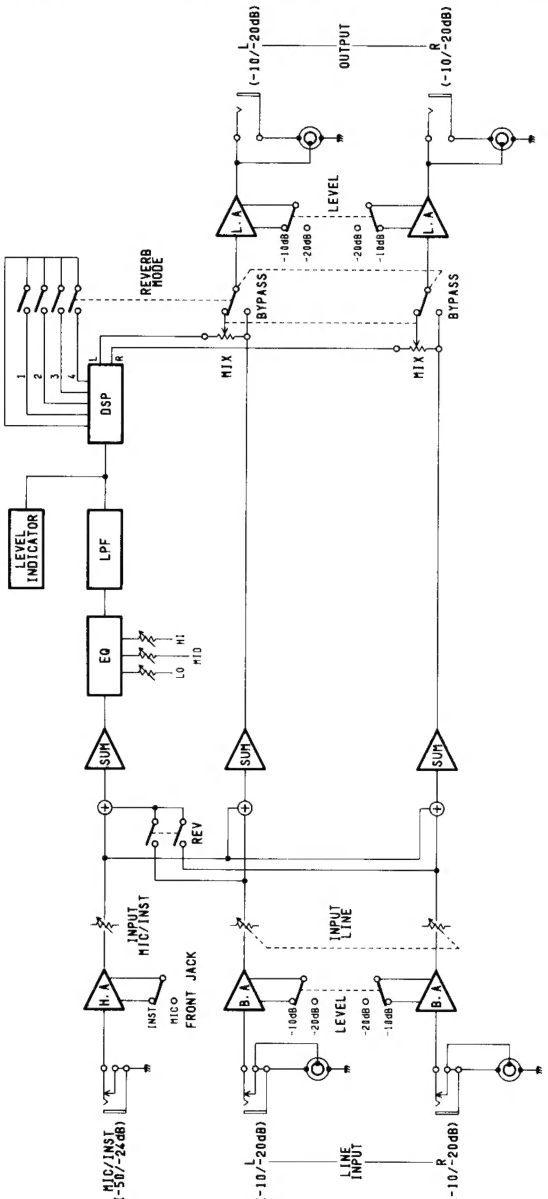
* Specifications and design are subject to change without notice.

DIMENSIONS
DIMENSIONS
ABMESSUNGEN



UNIT = mm (inch)
Unité = mm (pouce)
Einheit = mm (zoll)

BLOCK DIAGRAM
SCHEMA DE PRINCIPE
BLOCKDIAGRAMM

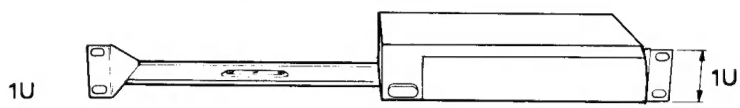


■ ACCESSORIES/ACCESSOIRES/ACCESSOIRES

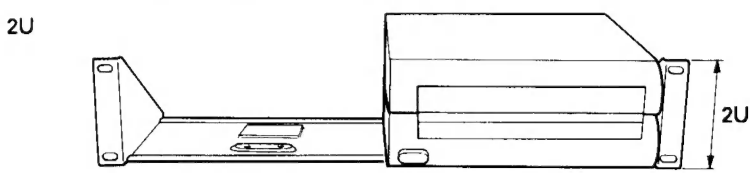
- **Rack Mount Kit / RK100, RK200**
- **Kits de montage en rack / RK100, RK200**
- **Rack-Einbausatz / RK100, RK200**

  - These provide space for 19" rack mounting of YAMAHA #100 series units.
  - Ces Kits permettent le montage en rack de 19" d'appareils YAMAHA de la série 100.
  - Dienen zum Einbau von YAMAHA-Geräten der Serie 100 in 19 Zoll Racks.

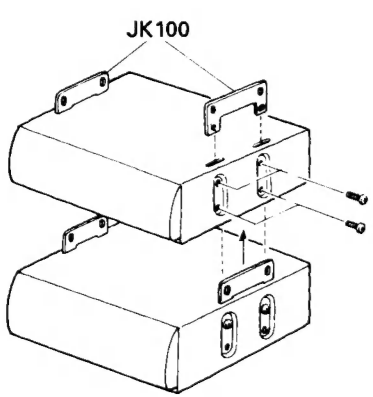
RK100 (1U-Type / Type 1U / Typ 1U)



RK200 (2U-Type / Type 2U / Typ 2U)



- **Joint Metal / JK100**
- **Fixation / JK100**
- **Verbindungsstück / JK100**



- An accessory for setting up YAMAHA #100 series units.
- Un accessoire servant à installer plusieurs appareils YAMAHA de la série 100.
- Zubehör zum Aufeinanderstapeln von mehreren YAMAHA-Geräten der Serie 100.

YAMAHA

YAMAHA CORPORATION
P.O.Box 1, Hamamatsu, Japan
8906R1 Printed in Japan.

VH78390